

## TM 1634 -CHROMOGENIC LISTERIA AGAR BASE (Modified)

### INTENDED USE

For selective identification and differentiation of *Listeria* species.

### PRODUCT SUMMARY AND EXPLANATION

Chromogenic Listeria Agar Base (Modified) is a selective media used for isolation, enumeration and presumptive identification of *Listeria* species and *Listeria monocytogenes*. It is a modification of original formulation of Notermans et al. (1991) and Mengaud et al. (1991). *Listeria* species grow over a pH range of 4.4 - 9.6 and survive in food products with pH levels outside these parameters. This media specifically selects *Listeria* spp. using a combination of chromogenic and fermentation reaction. Hydrolysis of chromogenic mixture and rhamnose fermentation easily differentiates *L.monocytogenes* (bluish-green colonies) from other *Listeria* species which are not able to ferment the carbohydrate.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone, special	23.000
Agar	13.000
Rhamnose	10.000
Chromogenic mixture	5.130
Meat extract	5.000
Sodium chloride	5.000
Lithium chloride	5.000
Yeast extract	1.000
Phenol red	0.12

### PRINCIPLE

Peptone, meat extract and Yeast extract present in the medium provide nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride maintains the osmotic balance of the medium. Agar is a solidifying agent. Lithium chloride and Chromogenic Listeria Selective Supplement (TS 205) inhibits growth of most gram positive bacteria, gram negative bacteria, yeasts and molds. Chromogenic mixture helps in easy differentiation by utilizing the  $\beta$ -glucosidase activity of *Listeria* species which appears as blue colored colonies. Organisms, unable to utilize the chromogenic substrate, give white colonies. Further, the differential activity is also obtained by rhamnose fermentation. The colonies of *L. monocytogenes* and *L. innocua* appear blue with a yellow halo (rhamnose fermentation positive) while the colonies of *L. ivanovii* appear blue without a yellow halo (rhamnose fermentation negative).

### INSTRUCTION FOR USE

- Suspend 67.25 grams in 1000 ml distilled water.
- Gently heat with swirling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool at 40 - 50°C.
- Aseptically add contents of 2 vials of Chromogenic Listeria Selective Supplement (TS 205) rehydrated in 5 ml distilled water.
- Mix well and pour into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	:	Light yellow to pink homogeneous free flowing powder
Appearance of prepared medium	:	Red coloured, clear to slightly opalescent gel
pH (at 25°C)	:	7.3± 0.2

### INTERPRETATION

Cultural characteristics observed after incubation with addition of Chromogenic Listeria selective supplement (TS 205). Recovery rate is considered 100% for bacteria growth on Soya Agar and fungus growth on Sabouraud Dextrose Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Rhamnose fermentation	Incub.* Temp.	Incub.* Period
<i>Listeria monocytogenes</i>	19111	50-100	Luxuriant	≥50%	Bluish green	Positive reaction, (yellow halo)	35-37°C	18 - 24 Hours
<i>L. innocua</i>	33090	50-100	Luxuriant	≥50%	Bluish green	Positive reaction, (yellow background)	35-37°C	18 - 24 Hours
<i>L. ivanovii</i>	19119	50-100	Luxuriant	≥50%	Bluish green	Negative reaction	35-37°C	18 - 24 Hours
<i>Enterococcus faecalis</i>	19433	≥1000	Inhibited	0%	-	-	35-37°C	18 - 24 Hours
<i>Escherichia coli</i>	25922	≥1000	Inhibited	0%	-	-	35-37°C	18 - 24 Hours
<i>Candida albicans</i>	10231	≥1000	Inhibited	0%	-	-	35-37°C	18 - 24 Hours

### PACKAGING

In pack size of 100gm & 500gm bottles.

### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

**Product Deterioration:** Do not use if powder show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

### DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

### REFERENCES

1. Notermans, S.H. and Dufrenne, J. (1991). Appl. Environ. Microbiol. 57:2666-2670.
2. Mengaud, J., Braun-Breton, C., Cossart, P. (1991). Mol. Microbiol. 5:367-372.



 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 REF Cataloge Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 QR Code	 Consults Instructions for Use	 Best Before

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**

**Revision: 25 February,**

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